LISTING OF THE CLAIMS

The following claim listing will replace all prior versions, and listings, of claims in this application.

1-43. (Canceled)

44. (Currently amended) A method for generating a herbicide-resistant transgenic soybean plant comprising:

introducing into a soybean somatic embryogenic culture a DHPS-encoding polynucleotide comprising the sequence represented by SEQ ID NO: 1 and encoding a functional dihydrodipicolinate synthase (DHPS) polypeptide, operably linked to an expression control sequence, wherein DHPS expressed from the introduced DHPS-encoding polynucleotide is effective to render an embryo resistant to selection-effective amounts of S-2-aminoethylcysteine (2-AEC), and to render the plant resistant to herbicide-effective amounts of AEC, and

contacting the embryo with selection effective amounts of 2-AEC.

45. (Canceled)

46. (Currently amended) The method of claim ~~41~~ 44, wherein the DHPS-encoding sequence ~~is~~ was originally isolated from soybean and has been genetically altered to be resistant to AEC inhibition.

47-64. (Canceled)

65. (New) The method of claim 44, wherein the expression-control sequence to which the DHPS-encoding polynucleotide is operably linked is a first expression control sequence.

66. (New) The method of claim 65, further comprising introducing a polynucleotide encoding a heterologous polypeptide of interest, operably linked to a second expression control sequence wherein the first and second polynucleotides and their expression control sequences may be the same or different.

67. (New) The method of claim 66, wherein the DHPS-encoding polynucleotide and/or the polypeptide of interest-encoding polynucleotide are stably integrated into the genome.

68. (New) The method of claim 66, wherein the polynucleotide encoding the DHPS polypeptide and the polynucleotide encoding the polypeptide of interest are on the same molecule.

69. (New) The method of claim 66, wherein the polynucleotide encoding the DHPS polypeptide, operably linked to the first expression control sequence, and the polynucleotide encoding the polypeptide of interest, operably linked to the second expression control sequence, are on separate molecules.

70. (New) The method of claim 65, wherein the first expression control sequence is a constitutive promoter.

71. (New) The method of claim 65, wherein the first expression control sequence comprises a cauliflower mosaic virus CaMV 35S promoter or a ribosomal RNA promoter.

72. (New) The method of claim 66, wherein the second expression control sequence is a seed-specific promoter.

73. (New) The method of claim 66, wherein the second expression control sequence comprises a glycinin, phaseolin, conglycinin, seed lectin, napin, zein or other seed-specific promoter.

74. (New) The method of claim 65, wherein the sequence encoding the functional DHPS polypeptide is upstream of the sequence encoding the polypeptide of interest.

75. (New) The method of claim 65, wherein the sequence encoding the functional DHPS polypeptide is downstream of the sequence encoding the polypeptide of interest.

76. (New) The method of claim 66, wherein the heterologous polypeptide of interest is selected from the group consisting of omega-3 desaturase; a polypeptide for improved amino acid compositions; a polypeptide imparting resistance to a bacterium, a fungus, a virus, an insect, or a nematode; a herbicide resistance polypeptide; a polypeptide affecting soybean composition or quality; a nutrient utilization polypeptide; an environmental or stress resistance polypeptide; and a drought resistance polypeptide.

77. (New) The method of claim 66, wherein the polypeptide of interest is phosphinothricin acetyltransferase, glyphosate resistant EPSPS, aminoglycoside phosphotransferase, dalapon dehalogenase, bromoxynil resistant nitrilase, anthranilate synthase and glyphosate oxidoreductase.

78. (New) The method of claim 66, wherein the polypeptide of interest is a lysophosphatidate acyl transferase (LPAT).

79. (New) The method of claim 66, wherein the polypeptide of interest is a diacylglycerol acyltransferase (DGAT).

80. (New) The method of claim 66, wherein the polypeptide of interest provides increased oil content in the soybean.

81. (New) The method of claim 66, wherein the polypeptide of interest is delta-9 desaturase.

82. (New) The method of claim 81, wherein expression of the delta-9 desaturase activity results in a decreased saturated fatty acid contents in the soybean plant.

83. (New) The method of claim 82, wherein the decreased fatty acid content results in palmitoleic acid accumulation in the soybean plant.

84. (New) The method of claim 66, wherein the polypeptide of interest is delta-12 desaturase.

85. (New) The method of claim 84, wherein expression of the delta-12 desaturase results in high oleic acid content soybean oil.

86. (New) The method of claim 85, wherein the polypeptide of interest is a functional DHPS expressible in soybean plant and seed.

87. (New) The method of claim 86, wherein the polypeptide of interest is the same as the DHPS-encoding sequence.

88. (New) The method of claim 44, wherein a 3' terminator sequence is located 3' to the DHPS-encoding sequence.

89. (New) The method of claim 88, wherein the 3' terminator sequence is a pea RUBISCO 3' controlling sequence, a ribosomal RNA terminator, or a 3' transcription region for the nopaline synthase (NOS) gene.

90. (New) The method of claim 66, wherein one or both of the sequence encoding the functional DHPS polypeptide and the sequence encoding the heterologous polypeptide of interest is operably linked to two or more expression control sequences.

91. (New) The method of claim 66, wherein the transgenic soybean plant is backcrossed so as to generate a transgenic soybean plant which is homozygous for the sequence encoding the heterologous polypeptide of interest.

92. (New) The method of claim 44, further comprising backcrossing the transgenic soybean plant to generate a transgenic soybean plant which is homozygous for the sequence encoding the DHPS polypeptide.

93. (New) The method of claim 44, wherein the transgenic plant is fertile.

94. (New) The method of claim 44, further comprising propagating in a bacterium a plasmid comprising the DHPS-encoding sequence, the expression control sequence, and a polynucleotide encoding a selectable or screenable marker for bacterial culture, operably linked to an expression control sequence.

95. (New) The method of claim 94, wherein the marker for bacterial culture is an nptII gene, a bla gene, a nptI gene, a dhfr gene, an aphIV gene, an aacC3 gene, an aacC4 gene or a GUS gene.

96. (New) The method of claim 94, wherein the polynucleotide encoding a marker for bacterial culture is the DHPS encoding sequence and the culture is an AEC-sensitive E. coli auxotroph.

97. (New) The method of claim 94, wherein the polynucleotide encoding a marker for bacterial culture imparts antibiotic resistance, and further comprising cleaving the antibiotic resistance polynucleotide from the plasmid prior to introducing the plasmid sequences into the somatic soybean embryos.

98. (New) The method of claim 97, further comprising cleaving the antibiotic resistance polypeptide from the DHPS-encoding sequence portion of the plasmid by action of a restriction enzyme.

99. (New) The method of claim 44, wherein the embryo is contacted with a concentration of 2-AEC from about 0.1 to about 20 mM.

100. (New) The method of claim 44, wherein the embryo is contacted with a concentration of 2-AEC from about 1 to about 2.5 mM.

101. (New) The method of claim 44, wherein the transgenic soybean plant contains increased levels of lysine compared to soybean plants which do not comprise the DHPS encoding sequences.

102. (New) A herbicide-resistant transgenic soybean plant, or progeny thereof, generated by the method of claim 44.

103. (New) A soybean somatic embryo comprising an AEC resistant DHPS-encoding polynucleotide selected by the method of claim 44.

104. (New) A transgenic soybean plant which is free of a polynucleotide encoding a polypeptide imparting antibiotic resistance selected by the method of claim 44.

105. (New) The transgenic soybean plant of claim 102, further comprising a polynucleotide encoding a protein imparting a desired trait in the soybean plant or soybean, the plant being free of a polynucleotide encoding a polypeptide imparting antibiotic resistance.

106. (New) A soybean seed produced by the soybean plant of claim 105.

107. (New) The plant of claim 105, wherein the polypeptide imparting a desired trait is a lysophosphatidate acyl transferase (LPAT) or diacylglycerol acyltransferase (DGAT).

108. (New) The plant of claim 105, wherein the plant produces a soybean having increased oil content.

109. (New) The plant of claim 105, wherein the polypeptide imparting a desired trait is a delta-9 desaturase and/or a delta-12-desaturase.

110. (New) The plant of claim 105, wherein the delta-9 desaturase decreases saturated fatty acid contents in the soybean plant and/or results in palmitoleic acid accumulation in the soybean plant and/or high oleic acid soybean oil.

111. (New) The plant of claim 105, wherein the polypeptide of interest is one or more selected from the group consisting of omega-3 desaturase, a polypeptide for improved meal amino acid

compositions, a disease resistance polypeptide, an insect resistance polypeptide, a nematode resistance polypeptide, a herbicide resistance polypeptide, a polypeptide affecting soybean composition or quality, a nutrient utilization polypeptide, an environmental or stress resistance polypeptide and a drought resistance polypeptide, and combinations.